

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-22 (canceled)

Claim 23 (new): An arrangement for a feedback control system connected to a medical apparatus which has a controllable device (10) for controlling a patient care factor, said arrangement comprising:

5 a signal responsive controlling device (9) for controlling said controllable device (10);

a user interface means (12) coupled to said controlling device and providing an input signal to said controlling device for use in controlling the controllable device to provide the patient care factor;

10 first sample means (8) providing a patient care factor sample from the medical apparatus;

a measuring means (7) having an input for receiving a sample and an output coupled to said controlling device for providing an output signal indicative of a measured value of a sample property;

15 a reference value means (17) providing a reference signal indicative of a known value for a sample property that can be measured by said measuring means (7);

second sample means (16) providing a sample exhibiting the sample property, a known value of which is indicated by the reference signal;

20 switching means (15a) providing the patient care factor sample from said first sample means to said measuring means (7) to cause said measuring means to provide a first output signal to said controlling device (9) suitable for use, in conjunction with the input signal from said user interface means, in controlling said controllable device, said switching means being switchable to provide said property exhibiting sample from said second sample

means to said measuring means to cause said measuring means (7) to provide a second output signal; and

25 a comparator for receiving said reference signal and said second output signal from said measuring means for comparing said reference signal and said second output signal to determine the operative condition of said measuring means (7).

Claim 24 (new): An arrangement according to claim 23 wherein said measuring means (7) is a gas monitor and wherein said first sample means provides a gas sample and said second sample means provides a gas sample.

Claim 25 (new): An arrangement according to claim 23 wherein said reference value means provides a reference signal obtained from said controllable means.

Claim 26 (new): An arrangement according to claim 23 wherein said reference value means provides a reference signal obtained from a source that is independent of said controllable means.

Claim 27 (new): An arrangement according to claim 23 wherein said switching means (15a) comprises a valve connected to said first and second sample means.

Claim 28 (new): An arrangement according to claim 27 further including at least one backup valve (15b, 15c) for said switching means valve (15a).

Claim 29 (new): An arrangement according to claim 23 wherein said medical apparatus comprises anesthesia administration apparatus and wherein said controllable device comprises a gas dispenser.

Claim 30 (new): An arrangement according to claim 24 wherein said medical apparatus comprises anesthesia administration apparatus and wherein said controllable device comprises a gas dispenser.

Claim 31 (new): An arrangement according to claim 29 wherein said medical apparatus comprises anesthesia administration apparatus having a gas dispenser outputting fresh gas containing an anesthetic agent, and wherein said first sample means provides a patient breathing gas sample, wherein said second sample means provides a fresh gas sample, and
5 wherein said reference value means (17) provides a gas concentration reference signal.

Claim 32 (new): An arrangement according to claim 23 further including safety means for instituting safety measures when the values of said reference signal and said second output signal differ by a predetermined amount.

Claim 33 (new): An arrangement according to claim 32 wherein said safety means is further defined as instituting a safety measure comprising disconnection of control of said controllable device responsive to the comparison made by said comparator.

Claim 34 (new): An arrangement according to claim 32 wherein said medical apparatus has a safety valve and wherein said safety means is further defined as instituting a safety measure comprising opening the safety valve responsive to the comparison made by said comparator.

Claim 35 (new): An arrangement as claimed in claim 32 wherein said medical apparatus has an alarm and wherein said safety means is further defined as instituting a safety measure comprising the giving of an alarm signal responsive to the comparison made by said comparator.